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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/681,846

10/08/2003

Qingchong Liu

7990.3001.001

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04/27/2009

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EXAMINER

PANWALKAR, VINEETA S

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

04/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Supplemental
Notice of Allowability**

Application No.

10/681,846

Examiner

VINEETA S. PANWALKAR

Applicant(s)

LIU, QINGCHONG

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to attorney's phone call dated 4/14/09.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☐ Notice of Informal Patent Application |
| 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ | 7. ☐ Examiner's Amendment/Comment |
| 4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. ☐ Examiner's Statement of Reasons for Allowance |
| | 9. ☐ Other ____. |

/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611

DETAILED ACTION

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David Simonelli (Reg. No. 36680) on 4/14/09.

The application has been amended as follows:

In the claims as per examiner's amendment of 4/3/09:

- 1a. The claim renumbered as claim 5 has now been amended to read:
 5. (Currently Amended) A communication system for transmitting and receiving an input data stream, said communication system comprising:
 - a transmitter for receiving the input data stream and transmitting the input data stream therefrom, said transmitter including a modulator defining a pulse shaping function for mapping the input data stream using phase shift keying to create a modulated signal, and an amplifier working in a saturation region and defining an impulse response function for amplifying the modulated signal to create an amplified modulated signal, wherein said pulse shaping function and said impulse response function are convoluted such that the pulse shaping function and the impulse response function satisfy:

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$$x(t = k T_s \underline{T_s}) = 1, \text{ if } k = L$$

$$= 0, \text{ Else}$$

where L is the number of symbols and $T_s \underline{T_s}$ is the symbol time;

where $x(t)$ is the convolution of $g(t) = p(t) * p_1(t)$ and $g(T-t)$, where T is the duration of $g(t)$;

a channel through which the amplified modulated signal is transmitted; and a receiver to receive the amplified modulated signal to down convert the amplified signal to retrieve the input data stream therefrom.

1b. The claim renumbered as claim 24 has now been amended to read:

24. (Currently Amended) A transmitter for receiving an input data stream and transmitting the input data stream out therefrom, said transmitter comprising: a modulator defining a pulse shaping function for mapping the input data stream using phase shift keying to create a modulated signal, said modulator including first and second finite impulse response filters to construct the modulated signal in orthogonal channels, wherein said first and second finite impulse response filters define a roll-off factor (13) in a range between 0.6 and 1.0, inclusive, for a square root raised cosine function; and an amplifier defining an impulse response function for amplifying the modulated signal to create an amplified modulated signal, wherein said pulse shaping function and said impulse response function are convoluted to minimize the effect of noise and distortion allowing the input

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data stream to be demodulated and read such that the pulse shaping function and the impulse response function satisfy:

$$x(t = k T_s) = 1, \text{ if } k = L \\ = 0, \text{ Else}$$

where L is the number of symbols and T_s is the symbol time;

where $x(t)$ is the convolution of $g(t) = p(t) * p_1(t)$ and $g(T-t)$, where T is the duration of $g(t)$.

Allowable Subject Matter

2. Reasons for allowance remain the same as those mentioned in examiner's amendment mailed 4/3/09.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINEETA S. PANWALKAR whose telephone number is (571)272-8561. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. S. P./
Examiner, Art Unit 2611

/David C. Payne/

Supervisory Patent Examiner, Art Unit 2611